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STATE OF NEVADA

BIENNIAL REPORT

OF THE

Nevada

STATE BOARD OF HEALTH

For the Period Ending December 31, 1918

S. L. LEE, M.D., Secretary

Dup. 1919.
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CARSON CITY, NEVADA
STATE PRINTING OFFICE—JOE FARNSWORTH, SUPERINTENDENT
1919

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STATE BOARD OF HEALTH OF NEVADA

W. H. HOOD, M.D., President	Reno, Nevada
G. F. RUEDIGER, M.D.	Reno, Nevada
S. L. LEE, M.D., Secretary	Carson City, Nevada

LETTER OF TRANSMITTAL

OFFICE OF
SECRETARY OF THE STATE BOARD OF HEALTH,
CARSON CITY, NEVADA, January 1, 1919.

To the Honorable EMMET D. BOYLE, *Governor of Nevada.*

SIR: In compliance with section 4 of an Act to create a State Board of Health, approved March 27, 1911, I have the honor to submit herewith my biennial report for the years 1917–1918.

Very respectfully,

SIMEON L. LEE,
Secretary State Board of Health.

REPORT OF STATE BOARD OF HEALTH

At a meeting of the State Board of Health held in Carson City, Nevada, on September 11, 1917, in compliance with an Act entitled "An Act requiring the examination of all school children to ascertain if they have defective eyesight or hearing, or diseased teeth, or if they are addicted to mouth-breathing," approved March 24, 1917 (Stats. 1917, p. 355), the following instructions were issued, to be sent to the teachers in the State, with a sufficient number of Snellen's test-cards to supply each teacher with one, together with the necessary notices to parents, blanks, etc.:

INSTRUCTIONS FOR THE EXAMINATION OF SCHOOL CHILDREN'S EYES, EARS, ETC., ISSUED BY THE STATE BOARD OF HEALTH OF NEVADA, SEPTEMBER, 1917.

THE NOSE AND THROAT ANATOMICAL CONSIDERATIONS

The upper respiratory region consists of the nose, mouth and pharynx. Teachers are reminded that the pharynx is the cavity communicating with the mouth and nose in front, and the esophagus and larynx below. Its walls are composed of fibrous and muscular tissue. It may be likened to a bag, the mouth of which is held open at the top by bony attachments to receive food, and which narrows down below to a tube (the esophagus), the latter in turn transmitting the food to the stomach. By the throat is meant the lower part of the pharynx (below the level of the palate) and the upper end of adjacent larynx and esophagus. The palate is the roof of the mouth, and floor of the nose, the soft palate being composed of muscle, connective tissue and epithelium covering the hard palate (bone). The familiar little mass of tissue hanging from the back of the palate is the uvula. The region where the posterior end of the nasal cavity communicates with the pharynx is appropriately termed the nasopharynx, and it is here where adenoid growth, when they exist, are found.

The middle ear communicates with the throat by means of the eustacian tube, whose orifice is on the side wall of the pharynx, about one-third of an inch from its hind end and slightly above the level of the hard palate.

In early infancy the posterior opening of the nose measures but one-fourth of an inch in height and one-third of an inch across both nostrils, such remarkably small diameters rendering it very liable to obstruction. The orifice of the eustacian tube is situated on a level with the palate instead of just above this level, and this lower location gives a more horizontal direction in the tube itself as it passes outward, explaining the secondary infection of the ear so frequently seen in children suffering from adenoids.

A certain form of connective tissue is termed lymphoid tissue because it is composed principally of packed masses of small, round cells known as lymphocytes, because it is found along the course of the lymphatic system. The lymphoid tissue, the aggregations of which are known as lymphatic glands, is found generally through the body, but particularly where it can act as a filter and destroyer of bacteria in regions exposed to infection. Thus the lymphatic vessels of the mouth, arm and leg drain into clusters of lymphatic glands situated in the neck, armpit and groin, respectively, whose soreness and swelling are a familiar experience when a sore throat, vaccination on the arm, or infected wound of the foot occurs. Similar lymphatic glands in the chest and abdomen filter and kill bacteria invading the lungs and intestines. Inflammation of a lymphatic gland is known as adenitis, and in the neck this is known as cervical adenitis.

Certain masses of lymphoid tissue, the existence of which is apparently purposeless, are found in the upper throat. They consist of the well defined tonsils on either side, a small patch on the upper surface of the tongue back at its base, and another patch on the roof of the pharynx. The latter two are sometimes called the lingual and pharyngeal tonsils, respectively, and it is because the pharyngeal tonsil exists in every one that its overgrowth (the so-called adenoid) is so common. Rather curiously, it will be noticed that this lymphoid tissue is thus disposed on the roof, floor and sides of the throat entrance, making an incomplete ring around it.

The tonsils are situated at the junction of the mouth and the pharynx, and implanted between two small muscles extending vertically and standing out like bands, plainly visible to the observer. These muscles pass down from the palate, one in front of the tonsil to the tongue, and the other behind the tonsil to the pharynx. They are frequently termed, respectively, the anterior and posterior pillars. Each tonsil is covered by mucous membrane and possesses normally a pale pink color and smooth surface. Its base, which is against the wall of the throat, is rather close to the internal carotid artery.

The tonsils are usually plainly visible, although occasionally they are so small and so deeply imbedded in the recess between the pillars that inspection is difficult. Choking, gagging, or the voluntary contraction of the throat muscles to produce loud, high pitched sounds, moves them inward and forward into better view.

To examine a child's throat, a tongue depressor may be used, but it is seldom necessary. Without it the child may simply be asked to open his mouth, a procedure which gives a good view of the throat, if he does not elevate the base of the tongue by reason of nervousness or voice production. A surer way, which, however, must be carried out exactly, is to ask the child to open the mouth wide, put the tongue out as far as possible and say, Ah (pronouncing the A as in cat, not as in star). To induce a hesitating child to open his mouth, a joking suggestion to take a bite of pie and put the tongue "way out" suffices.

Adenoids, when they exist, may attain varying sizes up to that of an olive, and, in the latter case, may block up the posterior opening into the pharynx. The fact that adenoids, when they exist, do not necessarily obstruct the posterior nasal opening should be remembered.

Adenoid tissue is of varying consistency, being ordinarily soft, spongy, and very well supplied with blood vessels which bleed easily. If the adenoid mass is congested by sluggish circulation, it is swollen and of a pulpy or jelly-like consistency. Sometimes the mass is quite firm because of the presence in it of tough, fibrous tissue, and this is particularly true of old adenoids existing in children over seven years of age. Such firm adenoids frequently present a surface which is irregular with deep furrows and longitudinal ridges like sweetbread.

Adenoids may appear as early as infancy. They often become quite evident by the third or fourth year, and reach their maximum at the age of six or seven; at ten the masses begin to shrink considerably, with a corresponding lessening of the symptoms.

The association of adenoids and enlarged tonsils (which are really the product of chronic inflammation) has been already mentioned. Most cases of enlarged tonsils show adenoids, and about one-third of adenoid cases show enlarged tonsils.

EVIDENCE AND EFFECTS

Nasal obstruction existing at the time of the child's physical examination is easily shown by asking the child to breathe through the nose. Curiously enough, this simple request is usually imperfectly understood by children, and time is saved by showing the child in pantomime what is expected: "Take a deep breath like this; that is right; now shut your mouth" (then gently press one nostril closed, then the other, while the child is breathing deeply). Instead of complete obstruction, there may be partial obstruction evidenced by a hissing or whistling sound through the nose.

Obstruction of the nose in children may be caused by large adenoids, by small adenoids plus an acute cold in the head, by nasal polyps, by deflected nasal septum, by injury to the nose, or by the lodgment of a bean or other foreign body, or by nasal diphtheria. Ordinarily nasal obstruction is by far the most frequent form, and is the only one here considered.

The diagnosis of adenoids is made because of the existence of certain symptoms and secondary effects rather than on the actual demonstration of the mass itself. This is so because the symptom group just mentioned is practically unmistakable, and because the viewing or feeling of the adenoids is a disagreeable proceeding to a child.

GROUP 1. *Immediate Effects of Nasal Obstruction.*

1. Mouth breathing.
2. Nasal catarrh.
3. Depressed mental activity from lack of air.

GROUP 2. *Defects which are the Characteristic Results of Adenoids.*

1. Mouth breathing by day, and mouth breathing and snoring by night.
2. Chronic nasal catarrh.
3. Secondary catarrh of the middle ear, causing defective hearing and a liability to acute inflammation.
4. Swollen bridge of the nose.
5. High, narrow palate.
6. Irregular projecting teeth.
7. Poorly developed upper jaw.
8. Chronic inflammation of the throat (granular pharyngitis). The continued mouth breathing irritates the posterior wall of the throat, so that gradually small granulations are seen studding the reddened surface.
9. Thick catarrhal voice of a "wooden" quality and lacking resonance. The letters "m" and "n" become "eb" and "ed." "Sprig is cobig" (spring is coming) is the time honored illustration of this condition.
10. Dull apathetic facial expression. This is due to the mental dullness which in turn causes a poor nervo-muscular development, particularly of the muscles of facial expression.

INSTRUCTION FOR THE EXAMINATION OF SCHOOL CHILDREN'S EYES, EARS, ETC.

Do not expose the card except when in use, as familiarity with its face leads children to learn the letters "by heart."

First grade children need not be examined.

The examinations should be made privately and singly.

Children already wearing glasses should be examined with such glasses properly adjusted on the face.

Place the "Vision Chart for Schools" (Snellen's) on the wall in a good light; do not allow the face of the card to be covered with glass.

The line marked XX (20) should be seen at twenty feet; therefore place the pupil twenty feet from the card.

Each eye should be examined separately.

Hold a card over one eye while the other is being examined. Do not press upon the covered eye, as the pressure might induce an incorrect examination.

Have the pupil begin at the top of the test-card and read down as far as he can, first with one eye and then with the other.

FACTS TO BE ASCERTAINED

1. Does the pupil habitually suffer from inflamed lids or eyes?
2. Does the pupil fail to read a majority of the letters in the number XX (20) line of the Snellen's test types with either eye?
3. Do the eyes and head habitually grow weary and painful after study?
4. Does the pupil appear to be "cross-eyed?"
5. Does the pupil complain of ear-ache in either ear?
6. Does the matter (pus) or a foul odor proceed from either ear?
7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room? Each ear should be tested by having the pupil hold his hand over first one ear, and then the other. The pupil should close his eyes during the test.
8. Is the pupil frequently subject to "colds in the head" and discharges from the nose and throat?
9. Is the pupil an habitual "mouth breather?"

If any affirmative answer is found to any of these questions, the pupil should be given a printed card of warning to be handed to the parent, which should read as follows:

NOTIFICATION TO PARENTS

Public Schools...Nevada, ...19....

Mr..

Dear Sir: It has come to our notice that your............................ needs medical attention relative to.., and we would suggest that you place........................under the care of a physician as early as possible, so that........................will be in better condition, physically, to continue.................... studies.

Respectfully,

....

Principal or Teacher.

The findings of the examination should be entered on a blank similar to the following, and kept on file by the teacher of the school the pupil attends, or by the principal of the schools.

(Some of the teachers have forwarded these examination blanks to the Secretary of the State Board of Health. This should not be done, as the findings of the teacher in the examination are evidence of his or her justification in sending the notification card to the parents.)

STATE BOARD OF HEALTH OF NEVADA

Report of Teacher

Town............................ *District*............................ *School*............................

Name	Age	Distant visage (feet)		Eyes inflamed, discharged, squint	Lids inflamed scaly, swollen	Eyes pain, fatigued after use	Head, colds daily or weekly	Hearing (feet)		Ear discharge, odor	Nose colds, catarrh	Throat mouth breathing	Teeth good, fair, poor	Case reported to parents	Remarks
		Right eye	Left eye					Right ear	Left ear						

VISION AND HEARING TESTS BY TEACHERS

If only an eye disease is suspected, the words, "ear, nose and throat" should be crossed off; if only an ear disease is suspected, the words "eye, nose and throat" should be crossed off; if it is only a nose and throat disease, the words "eye" and "ear" should be crossed off.

It will be observed that these cards are non-obligatory in their nature. They do not require anything of the parent, who is at perfect liberty to take notice of the warning card or not, as he sees fit. They simply warn the parent that a probable disease exists, thus placing the responsibility upon the parent.

Nevertheless, if parents neglect the warning thus conveyed, the teacher should, from time to time, endeavor to convince such parents of the advisability of medical counsel. Teachers are urged to impress upon pupils and parents the necessity for consulting reputable physicians.

These tests should be made annually at the beginning of the fall term, and should include all children above the first grade.

Each teacher should examine all the children in his or her own room, and should report the results of such examination to the principal, such report to be signed by the examining teacher.

THE CARE OF THE TEETH

What are the teeth for? Not merely for ornament. Their chief use is to prepare the food for the stomach, to grind the food and mix it with saliva. Food which is not thoroughly chewed causes indigestion and constipation.

How long should the teeth last? To the end of life.

How do we lose them? By decay and loosening.

What causes teeth to decay? Bits of food and candy sticking to the teeth; also a poor physical condition.

Where does the food lodge? All along the edge of the gums, between the teeth and in the crevices of the grinding surfaces.

Can decay be prevented? Yes, to a large extent.

How can decay be prevented? By scrubbing the teeth thoroughly with a toothbrush, toothpowder, and water; and by keeping up the general health.

How often should the teeth be cleaned? At least twice a day, after breakfast and at bedtime. Better after each meal.

Should the gums be brushed? Yes. Moderate friction helps to keep them healthy.

How often should toothpowder be used? At least once a day, at bedtime.

TO PARENTS

You are reminded of the necessity for early care of children's teeth. With such care the teeth may be preserved throughout life. This will not only save much inconvenience and discomfort in later life, but it may enable the child in the meantime to live a more vigorous, and hence a successful life.

The condition of the teeth has much to do with the general health. The following cautions, abbreviated from those issued to teachers and school physicians by the State Board of Health, are commended to your attention:

Unclean mouths promote the growth of disease germs, and cavities in the teeth are centers of infection.

Irregularities of the teeth, especially those which make it impossible to close the teeth properly, thus leading to faulty digestion and faulty breathing, should receive careful treatment.

The first permanent molars are perhaps the most important teeth in the mouth. They come at about the sixth year immediately following the temporary teeth, and are the most frequently neglected because they are often mistaken for temporary teeth.

It should be known that decay of the teeth is caused primarily by the fermentation of starchy foods and sugars, and the greatest factor in preventing disease of the teeth is the removal of food particles by frequent brushing. Children should be prevented from eating crackers and candy between meals, and when possible the teeth should be cleaned after eating. Inspection of the teeth by a dentist should be made at least once or twice a year.

Your attention is also called to the prevalence of maladies of the nose and throat.

The health of a child and his ability to do his school work may be seriously impaired by the presence of adenoid growths. When a child shows obstruction of the nose by mouth-breathing, snoring, continual discharge, or recurrent ear trouble, adenoids should be suspected.

Enlarged tonsils, recurrent tonsilitis and enlargement of the glands in the neck also constitute a serious handicap to the child. Either condition must be remedied before he can have a fair chance in the world, and the earlier the better. The family physician should be consulted, and the child given such treatment as he may advise.

Owing to the difficulty in securing the names and addresses of the teachers throughout the State, the Board was unable to send the instructions, test-cards and other material to them, until October, 1917.

The Board realizes that these instructions to the teachers convey no "new" truths to the scientific world, but many of our teachers are young and inexperienced, hence the publication of the foregoing is designed more particularly for the benefit of the children under their care than with any thought of "enlightening the world."

SOCIAL HYGIENE

Since the opening of the cantonments throughout the United States for the reception of our newly-made armies, the necessity for taking steps to control the great social evil became imperative, and with that end in view the Chamberlain-Kahn Act was passed by Congress.

In view of the fact that Nevada is a signatory to the Act it is deemed advisable to publish the same, together with the Rules and Regulations promulgated by the Secretary of the Treasury.

The Chamberlain-Kahn Act No. 193 Passed by the 65th Congress, Approved July 9, 1918

INTERDEPARTMENTAL SOCIAL HYGIENE BOARD

That there is hereby created a board to be known as the Interdepartmental Social Hygiene Board, to consist of the Secretary of War, the Secretary of the Navy, and the Secretary of the Treasury as ex officio members, and of the Surgeon General of the Army, the Surgeon General of the Navy, and the Surgeon General of the Public Health Service, or of representatives designated by the Secretary of War, the Secretary of the Navy, and the Secretary of the Treasury, respectively. The duties of the board shall be: (1) To recommend rules and regulations for the expenditure of moneys allotted to the States under section five of this chapter; (2) to select the institutions and organizations and fix the allotments to each institution under said section five; (3) to recommend to the Secretary of the Treasury, the Secretary of War, and the Secretary of the Navy, such general measures as will promote correlation and efficiency in carrying out the purposes of this chapter by their respective departments; and (4) to direct the expenditure of the sum of $100,000 referred to in the last paragraph of section seven of this chapter. The board shall meet at least quarterly, and shall elect annually one of its members as chairman and shall adopt rules and regulations for the conduct of its business.

Sec. 2. That the Secretary of War and the Secretary of the Navy are hereby authorized and directed to adopt measures for the purpose of assisting the various States in caring for civilian persons whose detention, isolation, quarantine, or commitment to institutions may be found necessary for the protection of the military and naval forces of the United States against venereal diseases.

Sec. 3. That there is hereby established in the Bureau of the Public Health Service a Division of Venereal Diseases, to be under the charge of a commissioned medical officer of the United States Public Health Service, detailed by the Surgeon General of the Public Health Service, which officer while thus serving shall be an Assistant Surgeon General of the Public Health Service, subject to the provisions of law applicable to assistant surgeons general in charge of administrative divisions of the District of Columbia of the Bureau of the Public Health Service. There shall be in such division such assistants, clerks, investigators, and other employees as may be necessary for the performance of its duties and as may be provided for by law.

Sec. 4. The duties of the Division of Venereal Diseases shall be in accordance with rules and regulations prescribed by the Secretary of the Treasury. (1) To study and investigate the cause, treatment and prevention of venereal diseases; (2) to cooperate with State boards of departments of health for the prevention and control of such diseases within the States; and(3)to control and prevent the spread of these diseases in interstate traffic; *provided*, that nothing in this chapter shall be construed as limiting the functions and activities of other departments or bureaus in the prevention, control and treatment of venereal diseases and in the expenditures of moneys therefor.

Sec. 5. That there is hereby appropriated, out of any money in the treasury not otherwise appropriated, the sum of $1,000,000, to be expended under the joint direction of the Secretary of War and the Secretary of the Navy to carry out the provisions of section two of this chapter; *provided*, that the appropriation herein made shall not be deemed exclusive, but shall be in addition to other appropriations of a more general character which are applicable to the same or similar purposes.

Sec. 6. That there is hereby appropriated out of any moneys in the Treasury not otherwise appropriated, the sum of $1,400,000 annually for two fiscal years, beginning with the fiscal year commencing July first, nineteen hundred and eighteen, to be apportioned as follows: The sum of $1,000,000, which shall be paid to the States for the use of their respective boards or departments of health in the prevention, control, and treatment of venereal diseases; this sum to be allotted to each State in accordance with the rules and regulations prescribed by the Secretary of the Treasury, in the proportion which its population bears to the population of the continental United States, exclusive of Alaska and the Canal Zone, according to the last preceding United States census, and such allotment to be so conditioned that for each dollar paid to any State the State shall specifically appropriate or otherwise set aside an equal amount for the prevention, control and treatment of venereal diseases, except for the fiscal year ending June thirtieth, nineteen hundred and ninteen, for which the allotment of money is not conditioned upon the appropriation or setting aside of money by the State, provided that any State may obtain any part of its allotment for any fiscal year subsequent to June thirtieth, nineteen hundred and nineteen, by specifically appropriating or otherwise setting aside an amount equal to such part of its allotment for the prevention, control and treatment of venereal diseases; the sum of $100,000, which shall be paid to such universities, colleges, or other suitable institutions, as in the judgment of the Interdepartmental Social Hygiene Board are qualified for scientific research, for the purpose of discovering and developing more effective educational measures in the prevention of venereal diseases, and for the purpose of sociological and psychological research related thereto.

SEC. 7. That there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, the sum of $300,000 for the fiscal year ending June thirtieth, nineteen hundred and nineteen, to be apportioned as follows: The sum of $200,000 to defray the expenses of the establishment and maintenance of the Division of Venereal Diseases in the Bureau of the Public Health Service; and the sum of $100,000 to be used under the direction of the Interdepartmental Social Hygiene Board for the purpose for which any of the appropriations made by this chapter are available.

The Nevada State Board of Health, realizing the importance of this Act, and supported by the advice of your Excellency and that of the Attorney General, wired its acceptance to Dr. Rupert Blue, Surgeon General of the United States Public Health Service, and on the 16th day of November, 1918, received its quota, $800, from the Interdepartmental Social Hygiene Board in accordance with the regulations promulgated by the Secretary of the Treasury.

Very soon after the consummation of the contract between the United States Public Health Service and the State Board of Health of Nevada, the question of the jurisdiction of the latter in certain cases arose.

The local health officer of White Pine County was directed by the State Board of Health to investigate a case called to its attention by the health authorities of both California and Washington. The District Attorney of White Pine County gave as his opinion that the State Board of Health had exceeded its authority, as it was practically but a board of vital statistics. The Secretary of the Board submitted the matter to the Attorney General for his opinion, which was as follows:

OFFICE OF THE ATTORNEY GENERAL

CARSON CITY, NEVADA, November 13, 1918.

DR. S. L. LEE, *Secretary Nevada State Board of Health.*

DEAR DOCTOR: I am in receipt from you of a letter of October 24th from Dr. F. F. Owens, of Ely, White Pine County, Nevada, together with accompanying documents from you, all of which are herewith returned.

It appears therefrom that by Public Act No. 193, of the 65th Congress, provision was made for the regulation of certain diseases, and that the State of Nevada has entered into a contract with the United States to carry out the provisions of said Act, and has received its quota of money appropriated by said Act.

Under these circumstances your State Board of Health has the right to make regulations concerning the segregation and treatment of persons professionally engaged in this business, suffering from the diseases specified.

Very respectfully,

E. T. PATRICK, *Deputy Attorney General.*

As in this case, so it was during the epidemic of rabies in the years of 1914-15 and 1916.

In that case the Attorney General held that the State Board of Health was not invested with power to establish quarantine against diseased animals invading healthy zones, that such power was vested in the Boards of County Commissioners alone.

Under such conditions it is quite apparent that the State Board of Health cannot be regarded as a potent instrument for the protection of the public health; therefore its powers should be so clearly defined as to leave *no doubt* of its jurisdiction in all health matters.

The Rules and Regulations promulgated by the Secretary of the Treasury are as follows:

REGULATIONS

Promulgated by the Secretary of the Treasury, under which State Boards or State Departments of Health receive the allotment of funds provided in Section 6, Chapter XV, of the Act approved July 9, 1917, entitled "An Act making appropriations for the support of the army for the fiscal year ending June 30, 1919."

The act provides that $1,000,000 shall be distributed to the States for the use of their respective boards or departments of health for the prevention, control and treatment of venereal diseases, this sum to be allotted to each State, in accordance with rules and regulations prescribed by the Secretary of the Treasury, in the proportion which its population bears to the population of the continental United States, exclusive of Alaska and the Canal Zone, according to the last preceding United States census.

State Boards or Departments of Health receiving their respective allotments shall agree to the following cooperative measures under which their appropriation shall be expended:

1. Put into operation through a legislative enactment or a State Board of Health regulation having the effect of law, regulations in conformity with the suggestions approved by the Surgeon General of the Army, Navy, and United States Public Health Service, for the prevention of venereal diseases. The minimum requirements of these rules are:

(a) Venereal diseases must be reported to the local health authorities in accordance with state regulations approved by the United States Public Health Service.

(b) Penalty to be imposed upon physicians or others required to report venereal infections for failure to do so.

(c) Cases to be investigated, so far as practicable, to discover and control sources of infection.

(d) The spread of venereal diseases should be declared unlawful.

(e) Provision to be made for control of infected persons that do not cooperate in protecting others from infection.

(f) The travel of venereally infected persons within the State to be controlled by State Boards of Health by definite regulations that will conform in general to the interstate regulations to be established.

(g) Patients to be given a printed circular of instructions informing them of the necessity of measures to prevent the spread of infection and of the importance of continuing treatment.

2. An officer of the Public Health Service shall be assigned to each State receiving allotments for the general purpose of cooperating with the state health officer in supervising the venereal-control work in the State, the officer to be selected by the state health authorities and to be approved and recommended for appointment by the Surgeon General of the Public Health Service. The salary of this officer will be paid by the State out of the funds made available from the allotment, except a nominal sum of $10 per month, which will be paid by the United States Public Health Service. In those States where a bureau of venereal diseases has already been established, with a full-time medical officer in charge, the present incumbent may be recommended for appointment by the state health officer, and with the approval of the Surgeon General, United States Public Health Service, he will be appointed as an officer of the Public Health Service. The general plan of work for the State Bureau of Venereal Diseases will be:

(a) Securing reports of venereal infections from physicians and others required to report, in accordance with state laws;

(b) Suppressive measures, including the isolation and treatment in detention hospitals of infected persons who are unable or unwilling to take measures to prevent themselves becoming a menace to others, the establishment of free clinics for the treatment of venereal diseases, and the elimination of conditions favorable to the spread of venereal infections.

(c) Extension of facilities for early diagnosis and treatment through laboratory facilities for exact diagnosis and scientific determination of condition before release as noninfectious, in accordance with the standardized procedure that will be prescribed by the United States Public Health Service.

(d) Educational measures to include informing the general public, as well as infected individuals, in regard to the nature and manner of spread of venereal diseases and the measures that should be taken to combat them.

(e) Cooperation with local civil authorities in their efforts to suppress public and clandestine prostitution. The clinics referred to under (b) will form centers from which the other measures may be conducted by discovering the presence of infections, the securing of data for enforcing the regulations for reporting these diseases, and the institution of educational measures appropriate to particular communities. The immediate reduction in venereal-disease foci resulting from clinic treatment will result in a marked decrease in the prevalence of such diseases in both the military and civil population.

(f) Accurate detailed records must be kept of all the activities of the venereal-disease work. These will include careful records of each case treated, amount of arsphenamine used, final results, and disposition made of patients. Copies of these records must be forwarded to the Surgeon General, United States Public Health Service, as a report at such intervals as they may be requested, and in accordance with instructions regarding the form of report.

3. Local funds that may be available, or that may become available from legislative appropriations or any other source for venereal-disease control, shall be used by the state or city health authorities having jurisdiction for the extension of the work, and such local funds must not be conserved through the expenditure of the funds that are allotted by Congress through the United States Public Health Service.

4. In extension of the educational measures of the State's health authorities and its bureau of venereal diseases shall exert their efforts and influence for the organization of a state venereal-disease committee that will be unofficial in character, but a valuable cooperative agency for furthering the comprehensive plan for nation wide venereal-disease control.

5. The state health authorities shall take such measures as may be found practicable and decided upon in conference between the Public Health Service and State Board of Health representatives for the purpose of securing such additional legislation as may be required for the development and control of the spread of venereal infections. Action shall be taken to limit or suppress the activities of advertising "specialists" and quacks by prosecuting them under state laws or such other measures as may be applicable and effective.

6. In expending the sum allotted a State, the rules and regulations to be promulgated by the Interdepartmental Social Hygiene Board for the expenditure of the $1,000,000 civilian quarantine and isolation fund under control of the Secretary of War and Secretary of the Navy shall be given consideration by Public Health Service and State Board of Health representatives, so that the military necessities of each particular State may receive the consideration due its relative importance, and so that funds from the two sources may be correlated.

7. The state allotment shall be expended along general standard lines for all States and in accordance with an accounting system to be forwarded by the Interdepartmental Social Hygiene Board, approximately as follows:

(a) For the treatment of infected persons in hospitals, clinics and other institutions including arsphenamine and other drugs, 50 per cent of the allotment.

(b) In carrying out educational measures, 20 per cent.

(c) In carrying out repressive measures, 20 per cent.

(d) In general administration and other activities of venereal-disease control work, 10 per cent.

(This distribution is provisional and subject to modification after conference and agreement between each State and the United States Public Health Service to best meet the needs of the particular State.)

8. In carrying out the general Government program the administrative organization of the United States Public Health Service will be available at all times to State organizations in cooperative work, and assistance will be given to States whenever possible through the detail of employees, the securing of arsphenamine, provide literature for the educational measures, and in such other ways as may be found practicable as the work develops.

W. G. McAdoo,
Secretary of the Treasury.

TYPHOID FEVER

During the months of March and September, 1918, epidemics of typhoid fever broke out in Ely and McGill, White Pine County, where thirty or more cases developed in a short period of time. At the request of the Governor, Dr. G. F. Ruediger, Director of the Hygienic Laboratory at Reno, made two trips to Ely and vicinity to make a sanitary survey, and to study local conditions. He made two reports, and submitted them to the authorities of Ely and McGill, respectively, giving the results of his investigations of typhoid outbreaks in those two communities. The reports include certain recommendations which were made to safeguard the communities against the recurrence of similar outbreaks. These reports, together with one from Dr. Ruediger dealing with the subject of typhoid bacillus carriers, and in which is incorporated the discussion of the findings in the investigation of the Ely epidemics of last March and September, are as follows:

University of Nevada,
Reno, Nevada, September 5, 1918.

Mr. C. B. Lakenar, *General Manager Nevada Consolidated Copper Company, McGill, Nevada.*

Dear Sir: The sanitary inspection of the water and milk supplies at McGill, and the epidemiological investigation of the typhoid outbreak made on the 2d instant has led to the following definite results and conclusions:

1. Eight cases of typhoid fever were discovered in McGill between August 9 and August 20.
2. All of these patients have been using water from what is known as the "Domestic Spring supply" and there are no patients who have been using exclusively the water from the "Duck Creek supply."
3. All of the patients have been using milk from the McGill Dairy prior to their illness. This fact, however, is of no significance because there is only one dairy in McGill, and, if they are using fresh milk at all, they must get it from this dairy.
4. A careful sanitary inspection of the so-called "Domestic Spring" and its surroundings showed that the casing of the well-pit is in a dilapidated condition, leaving the well open to all manner of surface pollution. It is noted that the surface drainage from a considerable area is toward the well-pit, and in case of rain, large quantities of surface water must run into the well.
5. It was found further that the soil surrounding this well is being polluted with human excreta, which I found to be deposited less than two feet away from the edge of the well-pit.
6. It was learned that there was a fairly heavy rain in McGill about the end of July or first of August. This gave ample opportunity for the well to have become polluted with the human excreta which are deposited on the ground in the immediate vicinity, and this pollution undoubtedly occurred at that time.

From the foregoing data we can draw the positive conclusion that the outbreak of typhoid fever which occurred in McGill between August 9 and August 20 was due to a pollution of the "Domestic Spring" water with human excreta on or about August 1. Your local physicians were of the opinion that the infection came from the milk. I am convinced, however, that this is not the case, for the following reasons: It would be a most extraordinary occurrence to have eight persons who are using the "Domestic Spring" water become infected with typhoid fever from the milk, whereas all of the people who are using the "Duck Creek" water escaped infection, although they were using the same milk. That such a thing happened is so extremely improbable that we can rule out, unhesitatingly, the milk as the source of infection. Moreover, the findings of the condition of the well and the soil immediately surrounding it, is sufficient evidence to show that this water is sure to be polluted in times of rain.

This well can and must be made safe by putting in a concrete casing, at least one-foot thick. This casing should start about eight or ten feet below the present water line, and should be brought up four or five feet above the surrounding ground. The well-top should be vaulted over, and provided with a manhole that is closed with a well-fitting iron cover. This cover must be made with a radial arm type of lock so that the arms on the under side of the cover can be thrown out until they project beneath the rim of the manhole. The cover is locked and unlocked by turning a large nut on the upper surface of the cover by means of a large wrench.

The low and open spaces around the casing must be filled in with clay, which must be moistened and thoroughly tamped in close to the casing. The filling-in must be brought up high enough so that the rain and snow water will run away from the well-top, and not toward it. When this filled-in soil has been thoroughly tamped in and has settled, it should be covered with a fairly heavy layer of concrete for a radius of eight or ten feet.

In addition to this I strongly recommend that you enclose the well with a barb-wire entanglement at least six feet high. This barb-wire entanglement should have a radius of about fifteen feet and must be provided with a strong gate that can be securely locked, so that nobody can pollute the surroundings of this well as has been done in the past.

7. The milkhouse at the dairy was found to be in an insanitary condition. The milk bottles are not sterilized in any way and the water that is used for washing and rinsing them is open to all manner of pollution, and is polluted as shown by a bacteriological analysis of a sample collected by me on September 2. This analysis showed that there was more than five colon bacilli per cubic centimeter in this water, and a total of 768 bacteria of all kinds in each cubic centimeter.

A new milkhouse should be built on higher ground and should be supplied with water from the "Domestic Spring" which must be made safe. The milkhouse must be equipped with a modern bottle-washing and sterilizing machine and a modern milk-bottler. Somebody with authority must visit this dairy about once a week, and see to it that the bottles and bottler are properly cleansed and sterilized after having been used.

8. The three or more sewer outlets in McGill do not extend far enough out into the bed of waste water, and should be extended 200 or 300 feet farther.

9. Most of the outside privies are of improper construction, and practically all of the vaults are full and in an insanitary condition. The greatest objection to an out-door privy, in a country where there are flies, is the fact that they are usually so constructed that they are entirely open, giving free access to the flies. An out-door privy in order to be safe against the spread of typhoid fever, must be made fly-proof.

I am requesting the Surgeon General of the United States Public Health Service to send you pamphlets describing the construction of sanitary outside privies.

The contents in many of the vaults at present should be treated with chloride of lime. Wherever possible, the outside privy should be discontinued and flush toilets installed. This latter recommendation applies with even greater force to the toilets in the vicinity of the smelter and various shops. I inspected a number of these and found them to be in a very insanitary condition.

10. The bacteriological analysis of the "Duck Creek" water gave evidence of pollution with colon bacilli in every cubic centimeter of the sample. I presume that most of this is due to animal pollution and not human pollution; but the fact that the water is so open to animal pollution renders it unsafe. I would strongly recommend that you install a chlorine treatment plant for the filtered "Duck Creek" water. The pressure filter which you have apparently does not remove the bacteria from the water because the filtered water gave

just as much evidence of pollution as the unfiltered water. I believe that the chlorine could be administered into the pipes against the pressure which you have, although it might be better to pump the water into a reservoir at a high enough elevation to give you the necessary water pressure in the distributing mains from gravity. Liquid chlorine can be purchased in steel cylinders and is administered at the rate of 0.5 to 0.6 milligram of chlorine per litre of water pumped. It is a thoroughly reliable disinfectant for polluted water, and if not used in excess, does not leave a perceptible taste. All of the drinking water supplied in Reno on the north side of the river is being treated with chlorine.

Very truly yours. G. F. Ruediger,
Director, State Hygienic Laboratory.

University of Nevada,
Reno, Nevada, September 24, 1918.

Mr. A. B. Witcher, Mayor, *Ely, Nevada.*

Dear Sir: The investigation of the typhoid epidemic at Ely, made on the 20th instant, led to the following results:

1. Fourteen cases of typhoid fever appeared in Ely between August 23 and September 13.

2. All of these patients were drinking water from the city supply of Ely, but four of them have been drinking water elsewhere during the month preceding their illness. Two admit having been to McGill once or twice, but stayed only a few hours. One has been working at Ruth, but resides in Ely, and the fourth came from Ward about two weeks prior to being taken sick. The remaining ten drank no water other than that from the public supply at Ely.

3. Twelve of the fourteen patients were getting milk from Moeller's Dairy, but two of these twelve deny having drank any milk except in their coffee and sometimes on breakfast cereals. Two patients deny having received any milk from Moeller's Dairy at their homes. The remaining ten state that they drank milk from Moeller's Dairy quite regularly, and several of them say they have been drinking large quantities of it.

4. There appears to be no other article of food or drink that many of them have been getting in common. Butter, ice-cream, vegetables, bread, and other groceries have been bought almost everywhere in the city, but there is no article among these which has been used in common by a large number of patients.

5. An investigation of conditions at Moeller's Dairy showed that this is a most insanitary place, and not at all suited for producing a safe milk. The milkhouse is built adjoining the barn and is swarming with flies, and is otherwise filthy. The washing and sterilizing of bottles and other utensils appears to be but imperfectly done. The water used for this purpose is taken from a shallow well about eighteen to twenty feet in depth, and located under the west end of the milkhouse, not more than five feet from a manure pile. The well is in no way protected against seepage from the manure pile and barnyard, nor is the top protected against the introduction of filth from the employee's boots. The water in this well is nothing but seepage from the manure pile, mixed with more or less cow's urine. A bacteriological analysis of this so-called water showed it to contain a total of nearly 20,000 germs per cubic centimeter (about 80,000 per teaspoonful), and over 600 disease germs of various kinds per cubic centimeter. These include streptococci, colon bacilli, and other bacteria of intestinal origin. This water is so badly polluted that it is certain to produce intestinal diseases if it were used for drinking purposes, and is certainly responsible for some of the typhoid that has recently developed in Ely. The water from this well must not under any circumstances be permitted to be used again in washing and rinsing the milk utensils, as was indicated in my telegram of Sunday evening.

6. The public water supply at Ely is found to be unsafe for drinking purposes. The source of supply appears to be properly protected and is satisfactory, but the ditch leading along the hillside from the springs to the reservoir is open to pollution and a careful investigation showed that it is being polluted with human excreta. I made a careful inspection of the entire distance and found a great deal of evidence of trespassing along the ditch, and in three different places I found deposits of human excrement along the edge of the ditch. In

addition, I found the remains of decayed bodies of two dead sheep, not more than five or six feet from the edge of the ditch on the uphill side.

It is evident from this inspection that the ditch is not properly protected and the water is being polluted to a considerable extent. I was informed also, by a person who is in a position to know from observation, that the children are in the habit of playing along this ditch, and frequently go in wading and send their dogs in after sticks and other objects that are thrown into the water. Moreover, the children throw in rocks and dirt in an attempt to dam up the water, which rubbish has to be removed at intervals by the caretakers. It is evident, therefore, that the water is polluted, and I am convinced that some of the typhoid in Ely is traceable to the water supply. I collected samples for bacteriological analysis at Mr. Witcher's residence and at the Lincoln Highway Garage. Both of these samples gave evidence of pollution, as is shown by the fact that bacteria of intestinal origin were found in every cubic centimeter of the samples analyzed. The total number of germs per cubic centimeter was over 200 in each sample.

The water supply must be properly protected against the pollution before you can hope to remain free from typhoid fever in Ely. This can perhaps be done most satisfactorily and most economically by piping the water down the canyon from the little reservoir at the head of the ditch, some sixty or seventy-five feet below the springs. The ditch along the hillside could be continued if water is wanted on the hill behind the courthouse for power purposes. The pipe leading from that reservoir, however, should not be connected with the city mains that supply the drinking water. It is the duty of the city of Ely to insist that this safeguarding of the public water supply be instituted at the earliest possible date.

Respectfully yours, G. F. RUEDIGER.
Director, State Hygienic Laboratory.

TYPHOID BACILLUS CARRIERS

GUSTAV F. RUEDIGER, M.D., DIRECTOR, STATE HYGIENIC LABORATORY,
RENO, NEVADA.

Our knowledge of typhoid bacillus carriers had its beginning in 1902 when Drigalski and Conradi found that the stools of persons who had been in close contact with typhoid patients frequently contained typhoid bacilli, although these individuals were in perfect health and gave no history of having had the disease. Soon afterwards it was discovered that at least one to two per cent of convalescents from typhoid fever continued to excrete the bacilli in the urine and stools for a considerable period of time. Since that time it has been conclusively demonstrated that from two to five per cent of all persons who have typhoid fever become either temporary or chronic bacillus carriers, and that at least two or three of every ten thousand healthy residents of any community are such carriers. In some instances the bacilli have been found in the feces almost in pure culture. In fact, it seems that they may practically replace the colon bacilli of the intestinal tract. On the other hand, there have been found many carriers who are only intermittent disseminators of the bacilli. In most of these cases, the biliary apparatus seems to be the seat of infection, from which the bacilli periodically find their way into the intestine and are discharged with the feces. Many of these carriers continue to excrete typhoid bacilli for twenty to thirty years or more, or presumably throughout the remainder of their lives. Typhoid bacilluria, on the other hand, generally persists only for a short period after convalescence. E. H. Ruediger, however, has recently reported a typhoid carrier of nine years duration who was found, on operation, to have a typhoid abscess of the kidney. A similar case was reported by Ravenel of Wisconsin in 1914.

It is no easy matter to determine what proportion of typhoid outbreaks are due to the activity of bacillus carriers. Some statistics indicate, however, that approximately fifty-five per cent of all typhoid cases in some localities are due to carriers. Nearly all cases of typhoid fever in insane asylums, institutions for the feeble minded and tuberculosis sanitoria where typhoid fever is endemic, are due to the activity of one or more bacillus carriers.

The first positively identified typhoid carrier in this country seems to have been a cook of New York City and vicinity, and frequently referred to as "Typhoid Mary," whose history and activities were carefully investigated by Soper. During a period of ten years she was known to have worked in eight different families. In seven of these, typhoid fever broke out within a few weeks after her arrival in the household. A total of twenty-six cases with one death are known to have been caused by this individual. As far as is known, this cook never suffered from an attack of typhoid fever, but a bacteriologic examination of her feces showed the presence of typical typhoid bacilli in enormous numbers.

The careful work of the bureau of communicable diseases of the State Board of Health of California has clearly shown that a large percentage of the typhoid outbreaks in that State are caused by the activity of carriers. We find for example that Sawyer, in 1912, detected a carrier on a steamship which was plying out of San Francisco harbor. This carrier was found to have infected twenty-seven persons with whom he had been in contact during a period of four years. Four of these patients had died of the infection. The patient was held in quarantine and given ten injections of an autogenous typhoid vaccine with apparently beneficial results. Four months later, however, when the carrier was released on parole, he infected three more persons on a vessel where he had obtained employment. He was again taken to the hospital where it was finally decided to remove the gall bladder and the cystic duct. These were found, however, to be free from typhoid bacilli, and it was learned later that the operation did not cure him of the carrier state.

In 1914, Sawyer reported an outbreak in which ninety-three persons were infected at a public dinner where food had been infected by a chronic bacillus carrier. In this instance the carrier had infected a quantity of Spanish spaghetti while preparing it. The spaghetti was afterwards baked in a hot oven until it was browned on the surface, but this baking apparently heated the center of the mass only sufficiently to incubate the bacilli and did not effect sterilization.

Cumming reported an outbreak of twenty-nine cases among persons who had attended a country-school picnic at Helm, California, in May, 1915. An epidemiologic investigation of this outbreak brought out the fact that all of those who contracted typhoid fever had eaten more or less of a batch of chocolate ice-cream. Those not partaking of it did not become ill. With two exceptions, everyone of those who had eaten of the chocolate ice-cream—even those eating nothing else—developed first intestinal intoxication and subsequently typhoid fever. The two exception were Mrs. Y, who had prepared the ice-cream, and her daughter. Both of these suffered from nausea, vomiting, and diarrhea immediately after the picnic, but did not develop typhoid fever. The further investigation of this family brought out the fact that Mrs. Y had typhoid fever seventeen years previously, and had remained a bacillus carrier, which was proven by a bacteriologic examination of her feces. The daughter never had typhoid fever, but had been vaccinated against the disease two years previously. It was learned further that Mrs. Y's son had had typhoid fever and that four of the six district school teachers who had boarded at her home developed typhoid while living in this household. Additional carriers have been detected in California by Senftner and others.

The Division of Preventable Diseases of the Minnesota State Board of Health likewise has had an extensive experience in detecting typhoid bacillus carriers. During the three-year period ending December 31, 1916, they identified by laboratory examinations sixty-nine carriers of B. typhosus and B. paratyphosus. Thirty of these were in different state institutions where typhoid fever had been endemic for a number of years. Owing to the mental condition of most of these patients it was impossible to get their past history in regard to typhoid infection, or to determine how many others had been infected by each carrier. The remaining thirty-nine carriers were identified in different sections of the State in the routine investigations to determine the source of various typhoid outbreaks. Some of these were found to have had typhoid fever as long as twenty-five to thirty years ago, and many cases of typhoid had been reported among their associates during the period intervening between the carrier's illness and the discovery of the fact that he had remained a carrier.

TYPHOID CARRIER IN ELY

On March 24, 1918, Dr. W. H. Hood, President of the State Board of Health, received a telegram from the Governor, requesting him to send the State Bacteriologist to Ely to make an investigation of an outbreak of typhoid fever which was in progress in Ely at that time. In compliance with this request, the Director of the State Hygienic Laboratory proceeded to Ely on March 25th, arriving there on the 26th. An interview with Dr. W. S. Holmquist, health officer for White Pine County, brought out the fact that there had been reported ten cases of typhoid in Ely from January 25th until March 26th. Dr. Holmquist had already made a careful inquiry into the milk supply of every household where typhoid fever had appeared and found that all were getting milk from dairy "M." He then visited dairy "M" and found that they had engaged a new helper in the dairy about January 10th, and upon questioning this man in regard to his past history relative to typhoid fever, he discovered that this man was in the hospital with typhoid during the months of October and November, 1917. Dr. Holmquist immediately ordered him (Mr. T.) to leave the dairy and be confined in the county hospital until the arrival of the State Bacteriologist.

Accompanied by Dr. Holmquist, I visited all the families in which typhoid fever had appeared, in order to gather all data that might possibly throw light upon the source of the infection. All of the patients were found to be using city water and all stated that they were milk drinkers, and had been getting their milk from dairy "M." The city water was considered safe, and this was verified by a bacteriological analysis of a sample collected on March 27th. Practically all of the patients had been eating at their homes, and all denied having been away from Ely for over a month prior to the onset of their illness. Groceries, butter and other supplies for table use were bought at various stores, and it did not appear that they were getting anything in common except the drinking water and the milk. All data gathered, therefore, pointed very strongly to the milk from dairy "M" as being the vehicle of infection. This conclusion was greatly strengthened by the fact that one of the helpers who had recently come into the employ of this dairy was convalescent from typhoid fever only about six weeks before entering the employ of the dairy. This man was therefore given a brisk cathartic to get several specimens of stool for bacteriologic examination. Two specimens of stool and two samples of urine were obtained, and litmus lactose agar plates made from each within an hour after procuring the sample, a portable bacteriological outfit having been taken along from the laboratory. The plates were carried home to the laboratory and incubated for twenty-four hours. None of the plates from the two samples of urine, nor those from the first stool, which was fairly solid, contained any typhoid colonies. The plates from the second sample of stool, however, which was semiliquid, contained more typhoid colonies than colonies of B. coli. These organisms were then positively identified as bacillus typhosus by both cultural and serologic tests.

It was proven, therefore, that the outbreak of typhoid fever occurring in Ely between January 25th and March 26th was caused by the infection of a milk supply by a dairy helper who was a typhoid bacillus carrier.

One lesson that should be learned from the results of this investigation is to the effect that no person should be allowed to enter into the employ of a dairy until his past history relative to typhoid fever has been ascertained by the local health officer. If a history of typhoid fever is obtained, there should be made a careful bacteriologic examination of the urine and several specimens of stool to determine the presence or absence of typhoid bacilli. The stools must be obtained with the aid of a cathartic or the findings are more likely to be negative even though the person is a chronic bacillus carrier.

TREATMENT OF TYPHOID BACILLUS CARRIERS

Many remedies have been suggested for the treatment of typhoid bacillus carriers to cure them of the carrier state, but thus far no specific has been found. Attempts have been made to disinfect the intestinal tract by the administration of salol, sodium salicylate, hexamethylenamin and various other intestinal antiseptics, but only with very temporary or indifferent results. In other cases, autogenous typhoid vaccines have been used for a long period of time and some cures have been reported. The experience in California suggests, however, that the cure may have been only temporary, and that the case was not kept under observation long enough to determine whether or not a permanent cure was effected. Removal of the gall bladder and cystic duct has been tried in a number of cases. When the gall bladder contains calculi and is infected with the typhoid bacillus a cure may be expected, and various cures have been reported following this operation. In other cases, however, it seems that the entire biliary apparatus and the liver are infected, and the removal of the gall bladder does not bring about a cure.

More recently Nichol recommended the administration of large doses of sodium bicarbonate to free patients from typhoid bacilli, during the early stages of the carrier state. This treatment is based upon the discovery that rabbit's bile has antiseptic properties for the bacillus typhosus, which properties are apparently due to the high alkalinity of the rabbit's bile. He recommends the administration of two grams of sodium bicarbonate three times a day, if the patient remains a carrier for one month or more after convalescence. The fact whether or not the person continues to be a carrier after convalescence is best determined by obtaining a sample of the duodenal contents by means of the Einhorn duodenal tube, and making bacteriologic plates therefrom.

SPANISH INFLUENZA

It is difficult to determine the date of the appearance of the first case of this disease in Nevada, but the first one diagnosed and reported as such developed in Reno on the 1st day of October, the next at Las Vegas, Clark County, on the 9th, in Elko, Elko County, on the 10th, and in Carson City on the 15th. After the last date it spread rapidly throughout the State until there was scarcely a village or hamlet that did not pay toll to it in human life.

It is impossible to give even an approximate number of persons afflicted with it, as it is not included in our reportable diseases, but it is quite safe to say that there were from four to five thousand.

In uncomplicated cases the fatalities were few, but in those where pneumonia was contributory, the death rate was very high, as will be seen by referring to the death table for 1918.

From several sections of the State appeals came to the State Board of Health for help to care for the sick, as there was an insufficiency of both physicians and nurses to do the work devolving upon the few they had. Among the localities most seriously afflicted and in greatest need were McDermitt and Lovelock, Humboldt County, Battle Mountain, Lander County, Virginia City, Storey County, and Elko, Elko County. Through Lillian White, of the Pacific Coast Division of the Red Cross, the board was able to send nurses to McDermitt, Battle Mountain, and Virginia City.

This epidemic of influenza resisted all medication to a greater degree than is usually met with in acute diseases of the respiratory organs, and the profession was "up in the air" as to both the genesis and treatment of the scourge. When it first appeared it was quite generally conceded to be caused by the bacillus of Pfeiffer, but that opinion seemed to explode before the end of the epidemic.

The experience of the tens of thousands of physicians who have been making war against the disease has failed to discover a single reliable prophylactic. Several serums have been advocated and used by the profession in this State, but the results have not been such as to warrant any special recommendation for their use, although one quite prominent physician claims to have had the most gratifying success with "horse serum."

The quarantine and mask questions have both been tried; neither one has proven successful. In one of our counties a rigid quarantine was established before a single case had developed, and immediately after the appearance of the first case a mask ordinance was passed and rigidly enforced, yet that county reported a greater number, proportionately, of cases and a larger death rate than any other county in the State.

No matter what the cause of the disease or the course of treatment pursued, there can be no question of doubt but that "fear" so reduced the powers of resistance that many became easy victims, and "fear" should have been entered in the death certificate as the remote cause of death.

Dr. Rupert Blue, Surgeon-General of the United States Public Health Service, recently headed an article of his in the "Herald of the Well Country," on Spanish "Flu" with a fable from the Arabic that is quite in harmony with the foregoing conclusion, and which is as follows: Plague went forth in the land and one met him, asking him if he could stay his cruel hand. Plague answered that he meant to be merciful; he would only take five thousand from the earth. Sometime afterwards these two met again. "So, thou art a liar as well as a murderer," said the other to Plague; "thy five thousand meant fifty thousand." "Not so," answered Plague, "I took but my five thousand; fear and worry killed the others."

INTERNATIONAL CLASSIFICATION OF CAUSES OF DEATH, 1917

(Titles as used by the Nevada State Bureau of Vital Statistics.)

GENERAL DISEASES

Typhoid fever	15
Relapsing fever	1
Malaria	1
Measles	4
Scarlet fever	5
Diphtheria	5
Croup	1
Influenza	2
Erysipelas	2
Puerperal infection and septicemia	11

Rocky Mountain spotted (tick) fever	2
Tuberculosis of the lungs	57
Acute miliary tuberculosis	2
Tuberculosis meningitis	3
Abdominal tuberculosis	1
Tuberculosis of other organs	1
Syphilis	6
Pneumokoniosis (miner's consumption)	10

CANCER (TOTAL)

Cancer of the buccal cavity	1
Cancer of the stomach, liver	17
Cancer of the peritoneum, intestines, rectum	2
Cancer of the female genital organs	2
Cancer of the breast	6
Cancer of other or unspecified organs	10
Acute articular rheumatism	3
Diabetes	14
Addison's disease	2
Leuchemia	1
Anemia, chlorosis	8
Alcoholism (acute or chronic)	19
Autointoxication	1

DISEASES OF THE NERVOUS SYSTEM

Simple meningitis	4
Cerebrospinal meningitis	4
Locomotor ataxia	5
Cerebral hemorrhage, apoplexy	47
Softening of the brain	11
Paralysis without specified cause	7
Other forms of mental alienation	2
Epilepsy	1
Convulsions of infants	2
Neuralgia and neuritis	2
Other diseases of the nervous system	3
Diseases of the ears	1
Pericarditis	1
Acute endocarditis	7
Organic diseases of the heart	97
Diseases of the arteries, atheroma, aneurism, etc.	20
Embolism and thrombosis	14
Diseases of the lymphatic system, lymphangitis, etc.	1
Hemorrhage; other diseases of the circulatory system	2

DISEASES OF THE RESPIRATORY SYSTEM

Diseases of the larynx	2
Diseases of the thyroid body	5
Acute bronchitis	7
Chronic bronchitis	4
Broncho pneumonia	27
Lobar pneumonia	53
Pneumonia (undefined)	40
Pleurisy	2
Pulmonary congestion, pulmonary apoplexy	6
Asthma	4
Other diseases of the respiratory system (tuberculosis excepted)	1

DISEASES OF THE DIGESTIVE SYSTEM

Diseases of the esophagus	1
Ulcer of the stomach	5
Other diseases of the stomach (cancer excepted)	4
Diarrhea and enteritis (under 2 years)	22
Diarrhea and enteritis (2 years and over)	10
Appendicitis and typhlitis	9
Intestinal obstructions	5
Hydatid tumor of the liver	1

Hernia	1
Other diseases of the intestines	6
Cirrhosis of the liver	12
Other diseases of the liver	5
Simple peritonitis (nonpuerperal)	17

DISEASES OF THE GENITO-URINARY SYSTEM

Acute nephritis	13
Bright's disease	45
Other diseases of the kidneys and annexa	1
Diseases of the bladder	1
Diseases of the urethra, urinary abscess, etc.	1
Uterine tumor (noncancerous)	1

THE PUERPERAL STATE

Accidents of pregnancy	1
Puerperal hemorrhage	1
Puerperal septicemia	5
Puerperal albuminaria and convulsions	5
Puerperal phlegmasia alba dolens, embolus, sudden death	1
Following childbirth (not otherwise specified)	1

DISEASES OF THE SKIN

Gangrene	3
Acute abscess	6

MALFORMATIONS

Other congenital malformations	1

DISEASES OF EARLY INFANCY

Premature birth	19
Congenital debility, "atrophy," "marasmus," etc.	35
Diseases peculiar to early infancy	1
Stillbirths	37

OLD AGE

Senility	33

AFFECTIONS PRODUCED BY EXTERNAL CAUSES

Suicide by poison	7
Suicide by hanging or strangulation	2
Suicide by firearms	22
Suicide by piercing or cutting instruments	3
Suicide by jumping from a high place	1
Suicide by crushing	2
Poisoning by food	4
Other acute poisoning	1
Burns (conflagration excepted)	3
Accidental drowning	14
Traumatism by firearms	6
Traumatism by fall	1
Traumatism in mines and quarries	30
Traumatism by machines	2
Railroad accidents and injuries	27
Automobile accidents and injuries	10
Landslide, other crushing	3
Injuries by animals	1
Lightning	1
Electricity (lightning excepted)	4
Homicide by firearms	23
Homicide by cutting or piercing instruments	3
Homicide by other means	1
Fractures (causes not specified)	9

ILL-DEFINED DISEASES

Cause of death not specified, or unknown	15
Ill-defined organic disease	23
Total	1124

CAUSE OF DEATH (International Classification)
From January 1 to December 31, 1918

GENERAL DISEASES

Typhoid fever	12
Rocky Mountain (tick) fever	3
Measles	1
Whooping cough	4
Diphtheria	3
Influenza (epidemic)	65
Erysipelas	2
Purulent infection and septicemia	11
Rabies	1
Tetanus	2

TUBERCULOSIS (TOTAL)

Tuberculosis of the lungs	77
Acute miliary tuberculosis	2
Tuberculosis meningitis	6
Abdominal tuberculosis	3
Tuberculosis of other organs	2
Disseminated tuberculosis	1
Rickets	1
Syphilis	2

CANCER (TOTAL)

Cancer of the stomach and liver	14
Cancer of peritoneum, intestines, rectum	6
Cancer of the breast	2
Cancer of other or unspecified organs	13
Other tumors (except female genital organs)	2
Chronic rheumatism and gout	3
Diabetes	6
Exophthalmic goitre	1
Leuchemia	1
Anemia, chlorosis	7
Alcoholism (acute or chronic)	12

DISEASES OF THE NERVOUS SYSTEM

Encephalitis	1
Simple meningitis	6
Cerebrospinal meningitis (undefined)	1
Other diseases of the spinal cord	7
Cerebral hemorrhage, apoplexy	48
Softening of the brain	8
Paralysis without specified cause	12
Epilepsy	5
Convulsions of infants	1
Neuralgia and neuritis	1
Other diseases of the nervous system	3

DISEASES OF THE CIRCULATORY SYSTEM

Pericarditis	1
Acute endocarditis	5
Organic disease of the heart	107
Angina pectoris	2
Disease of arteries, atheroma, aneurism, etc.	16
Embolism and thrombosis	8
Disease of the veins (varices, hemorrhoids, phlebitis, etc.)	1
Hemorrhage; other diseases of the circulatory system	6

DISEASES OF THE RESPIRATORY SYSTEM

Acute bronchitis	2
Broncho pneumonia (uncomplicated)	45
Lobar pneumonia (uncomplicated)	65
Pneumonia (undefined)	101
Pneumonia-Influenza	354
Pleurisy	1

Pneumokoniosis	7
Pulmonary congestion, pulmonary apoplexy	5
Asthma	7
Pulmonary emphysema	1
Other diseases of the respiratory system (tuberculosis excepted)	1

DISEASES OF THE DIGESTIVE SYSTEM

Diseases of the mouth and annexa	2
Diseases of the pharynx	1
Ulcer of the stomach	3
Other diseases of the stomach (cancer excepted)	5
Diarrhea and enteritis (under 2 years)	14
Diarrhea and enteritis (2 years and over)	5
Appendicitis and typhlitis	3
Hernia	2
Intestinal obstructions	11
Other diseases of the intestines	2
Cirrhosis of the liver	10
Other diseases of the liver	3
Simple peritonitis (nonpuerperal)	12

DISEASES OF GENITO-URINARY SYSTEM

Acute nephritis	13
Bright's disease	37
Other diseases of the kidneys and annexa	1
Diseases of the bladder	1
Diseases of the prostate	1

THE PUERPERAL STATE

Accidents of pregnancy	2

ACCIDENTS OF PREGNANCY

Puerperal septicemia	5
Puerperal albuminaria and convulsions	1

DISEASES OF THE SKIN

Gangrene	5
Acute abscess	5

MALFORMATIONS

Hydrocephalus	1

DISEASES OF EARLY INFANCY

Premature birth	11
Congenital debility, atrophy, marasmus, etc.	17
Other diseases peculiar to early infancy	13
Stillbirths	37

OLD AGE

Senility	18

AFFECTIONS PRODUCED BY EXTERNAL CAUSES

Suicide by poison	3
Suicide by hanging or strangulation	1
Suicide by firearms	13
Suicide by cutting or piercing instruments	3
Suicide by jumping from a high place	1
Other suicides	3
Poisoning by food	1
Other acute poisons	5
Burns (conflagrations excepted)	4
Accidental drowning	9
Traumatism by firearms	4
Traumatism by fall	4
Traumatism in mines and quarries	35
Traumatism by machines	6
Railroad accidents and injuries	23
Automobile accidents and injuries	3

Landslide, other crushing	4
Injuries by animals	2
Lightning	3
Electricity (lightning excepted)	1
Homicide by firearms	21
Homicide by cutting or piercing instruments	1
Homicide by other means	2
Fractures (cause not specified)	3

ILL-DEFINED DISEASES

Cause of death ill-defined	18
Cause of death not specified, or unknown	10
Sudden death	1
Total deaths	1518

BIRTHS ACCORDING TO SEX, COLOR, AND NATIVITY OF PARENTS

For the Year Ending December 31, 1917

Counties	Total births	Males	Females	Stillbirths	Twins (pairs)	Illegitimate	Both parents native	Mother native, father foreign	Father native, mother foreign	Both parents foreign	Mother native, father unknown	Mother foreign, father unknown	Neither parent known	White	Yellow	Black	Red	Half-breed
Churchill	67	34	33	2	1		53	4	1	8				67				
Clark	60	30	30	2	2		42	5	3	8				57	3			
Douglas	36	20	16				12	7	1	16				36				
Elko	147	70	77	4	2	2	100	11	5	27	2			143	2		2	
Esmeralda	52	28	24	2			33	6	4	9				50		1		1
Eureka	18	8	10			1	12	4		2				18				
Humboldt	120	76	44	5	1		64	7	5	43			1	117	1		2	
Lander	21	10	11		1		15	1	1	3				20		1		
Lincoln	48	21	27	1	1		38	5	1	3				47	1			
Lyon	90	54	36	4			52	16	2	20				89	1			
Mineral	20	7	13				15	1	2	2				20				
Nye	91	46	45		3	1	53	11	5	19				91				
Ormsby	31	18	13	1		1	19	1	2	9				26	3		2	
Storey	25	12	13	1	1	1	14	3	1	5		1		25				
Washoe	376	191	185	10	4	8	219	41	13	95	3	1		367	8			1
White Pine	193	97	96	5	1		131	18	11	32				193				
Totals	1395	722	673	37	17	14	872	141	57	301	5	2	1	1366	19	2	6	2

DEATHS ACCORDING TO AGE, SEX, COLOR, NATIVITY, AND SOCIAL CONDITION

For the Year Ending December 31, 1917

Counties	Important ages															Males	Females	White	Colored	Native	Foreign	Unknown	Single	Married	Widowed	Divorced	Unknown
	Under 1 yr.	1 to 5 yrs.	5 to 10 yrs.	10 to 20 yrs.	20 to 30 yrs.	30 to 40 yrs.	40 to 50 yrs.	50 to 60 yrs.	60 to 70 yrs.	70 to 80 yrs.	80 to 90 yrs.	90 to 100 yrs.	100 yrs. and over	Unknown	Stillbirths												
Churchill	2	5	2	2	4	6	5	6	7	3	3			1	2	34	14	47	1	34	10	4	23	16	6		3
Clark	2	1	1	1	3	2	3	3	5	5				4	2	25	7	31	1	16	5	11	17	8	4		3
Douglas	1			2		1	3	2	4							8	5	13		6	5	2	6	5	1		1
Elko	10	2	3	5	4	11	14	8	20	9	5				4	76	21	80	17	60	25	11	51	21	14	5	6
Esmeralda	7	3	1	6	9	7	5	5	12	4	3				2	44	20	60	4	50	11	3	30	18	7	2	7
Eureka	4	1		1	2			1		3	2					9	5	13	1	10	4		11	1	1		1
Humboldt	3	3		3	6	14	7	11	12	10	6			2	5	61	21	74	8	54	22	6	38	26	10		8
Lander	4	4			2	4	2	6	3	2						20	6	25	1	15	8	3	13	7	4	1	1
Lincoln	2			1	3	1	5	3	5	2				1	1	18	6	22	2	18	5	1	10	7	4	1	2
Lyon	10	1	2	1	4	9	5	17	11	7	5			1	4	55	20	72	3	57	15	3	37	28	8	1	1
Mineral			1		2	5	5	4	4	2		1				19	5	19	5	17	5	2	8	9	3	2	2
Nye	3	3		2	5	17	7	8	8	5	3					52	9	53	8	33	26	2	27	18	11	1	4
Ormsby	2	1		2	3	3	5	7	7	12	9	2			1	34	20	46	8	32	19	3	15	22	14	2	1
Storey	2	1	1	1		2	8		11	10	3			1	1	32	9	41		20	17	1	16	12	12		1
Washoe	28	7	8	12	29	46	42	46	44	33	16	3		7	10	219	112	323	8	224	90	17	142	100	52	12	25
White Pine	28	8	3	5	20	18	15	13	7	9	4	2		1	5	103	35	120	18	98	32	8	85	35	5	2	11
Totals	108	40	22	44	96	146	132	139	159	116	59	8		18	37	809	315	1039	85	748	299	77	528	334	156	29	77

CONTAGIOUS, INFECTIOUS AND COMMUNICABLE DISEASES REPORTED BY THE LOCAL HEALTH OFFICERS

For the Year Ending December 31, 1917

Counties	Scarlet fever		Small-pox		Diphtheria and membranous croup		Typhoid fever		Whooping cough		Measles		Mumps		Chickenpox		Pneumonia		Tuberculosis		Bronchitis		Acute anterior poliomyelitis		Cerebrospinal meningitis		Diarrheal diseases of children		Cancer		Puerperal septicemia		Rocky Mountain spotted (tick) fever	
	C[a]	D[b]	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
Churchill	2	0					4	2			24	0					7	7	2	2							1	1						
Clark																	1	1	1	1														
Douglas	7	1									66	0					2	2											1	1				
Elko	16	2	6	0					29	0	123	0	2	0	19	0	13	12	7	5	1	1					1	1	1	1	2	1	1	1
Esmeralda	2	0					5	2			1	1			1	0	12	10	6	6									1	1				
Eureka											90	1					2	2																
Humboldt	10	0	10	0	4	0	3	0	5	0	160	1	1	0	12	0	10	9	4	4	1	1			1	1			2	2			9	0
Lander	5	0							2	0	39	0	9	0	5	0	4	4	2	1	7	2					2	0	2	2			1	1
Lincoln	1	0					1	0			19	0	5	0			3	2	2	2	1	0							1	1				
Lyon	2	0					16	1			117	0					14	9	2	2							3	3	6	6				
Mineral									2	0	14	0			1	0	3	2	2	2														
Nye	9	0			2	1	19	3			1	0	1	0	10	0	12	11	12	11	1	1					2	0	2	2				
Ormsby	1	0			1	0			2	0	91	0			3	0	16	2	5	5	55	1					35	0	7	6	1	1		
Storey	4	1					2	1			3	0			3	0	6	3			1	1												
Washoe	43	1	4	0	11	4	21	3	5	0	631	1			12	0	41	32	12	11	11	3			2	2	7	4	14	14	3	2	1	0
White Pine	4	0	1	0			12	3	2	0	110	0			1	0	14	12	5	5	1	1					17	16	1	1	1	1		
Totals	106	5	21	0	18	5	83	15	47	0	1489	4	18	0	67	0	160	120	62	57	79	11	----	----	3	3	68	25	38	37	7	5	12	2

[a]C—Cases. [b]D—Deaths.

BIRTHS ACCORDING TO SEX, COLOR, AND NATIVITY OF PARENTS
For the Year Ending December 31, 1918

Counties	Total births	Males	Females	Stillbirths	Twins (pairs)	Triplets (group)	Illegitimate	Both parents native	Mother native, father foreign	Mother foreign, father native	Both parents foreign	Mother native, father unknown	Mother foreign, father unknown	Neither parent known	White	Yellow	Black	Red	Half-breed
Churchill	59	36	23	2				45	5	3	6				58	1			
Clark	88	55	33	2	1			67	6	4	9			1	85	2	1		
Douglas	34	17	17					14	3	2	15				34				
Elko	128	68	60	4	2			82	9	3	31			1	125	3			
Esmeralda	41	20	21	2				26	4	1	10				41				
Eureka	21	13	8					10	6	3	2				21				
Humboldt	104	63	41	5				47	12	3	40	1			95	7	1	1	
Lander	23	15	8			1		10	2		10				22	1			
Lincoln	50	22	28	1	1			44	2	2	2				50				
Lyon	77	44	33	4				46	7	4	20				74	3			
Mineral	12	9	3					6	1	1	4				11	1			
Nye	60	30	30					37	7	4	12				59			1	
Ormsby	14	5	9	1				12	2						12			2	
Storey	14	9	5	1				12		1	1				14				
Washoe	341	161	180	10	1		4	207	30	18	83	2	1		334	5		1	1
White Pine	197	103	94	5				112	17	7	61				188	8	1		
Totals	1263	670	593	37	5	1	4	777	113	56	306	3	1	2	1223	31	3	5	1

DEATHS ACCORDING TO AGE, SEX, COLOR, NATIVITY, AND SOCIAL CONDITION

For the Year Ending December 31, 1918

Counties	Important ages																									
	Under 1 yr.	1 to 5 yrs.	5 to 10 yrs.	10 to 20 yrs.	20 to 30 yrs.	30 to 40 yrs.	40 to 50 yrs.	50 to 60 yrs.	60 to 70 yrs.	70 to 80 yrs.	80 to 90 yrs.	90 to 100 yrs.	100 yrs. and over	Unknown	Stillbirths	Males	Females	White	Colored	Native	Foreign	Unknown	Single	Married	Widowed	Divorced	Unknown
Churchill	4	2	2	2	8	7	8	6	5	3	1	-----	-----	-----	1	36	13	48	1	34	11	4	25	21	2	-----	1
Clark	3	3	3	2	14	25	17	8	7	1	2	-----	-----	3	3	72	19	87	4	47	29	15	41	35	4	3	8
Douglas	3	-----	-----	2	4	5	2	-----	4	5	2	-----	-----	1	4	24	9	32	1	18	15	-----	19	9	5	-----	-----
Elko	8	5	1	7	22	30	21	6	15	7	3	-----	-----	1	3	94	35	116	13	77	43	9	65	37	10	4	13
Esmeralda	3	-----	-----	-----	4	9	10	7	2	5	2	-----	1	2	-----	33	13	45	1	23	21	2	15	16	4	1	10
Eureka	-----	-----	-----	2	7	8	1	2	4	4	2	-----	-----	-----	1	21	10	29	2	13	17	1	15	5	9	-----	2
Humboldt	5	4	-----	3	27	28	20	13	15	10	7	-----	-----	-----	5	110	28	125	13	83	45	10	63	54	5	3	13
Lander	2	1	-----	1	3	7	3	3	5	1	2	-----	-----	-----	-----	21	7	28	-----	14	11	3	12	11	4	1	-----
Lincoln	6	-----	1	2	7	15	9	5	5	2	1	-----	-----	4	3	43	17	56	4	40	15	5	25	21	8	1	5
Lyon	6	3	3	2	14	12	3	12	4	7	5	-----	-----	-----	1	56	16	66	6	42	25	5	39	19	11	1	2
Mineral	1	-----	-----	1	6	5	4	6	5	2	-----	-----	-----	3	-----	27	6	30	3	20	9	4	16	11	1	-----	5
Nye	4	3	4	3	23	32	28	14	10	2	2	-----	-----	-----	3	100	24	119	5	59	52	13	63	39	8	6	8
Ormsby	2	2	1	3	9	5	3	5	9	6	6	-----	-----	-----	3	32	22	45	9	33	19	2	29	19	4	-----	2
Storey	-----	2	-----	-----	6	16	11	5	2	3	7	-----	-----	-----	-----	40	12	51	1	40	11	1	28	14	7	1	2
Washoe	22	12	2	16	45	71	56	40	39	31	10	3	-----	1	9	225	132	332	24	244	94	19	127	137	46	8	39
White Pine	30	20	2	9	22	58	38	18	8	8	1	1	-----	-----	4	163	58	209	11	124	75	22	97	79	9	5	30
Totals	101	57	19	55	222	334	234	149	139	98	53	4	1	15	37	1097	421	1418	100	911	492	115	679	527	137	35	140

CONTAGIOUS, INFECTIOUS AND COMMUNICABLE DISEASES REPORTED BY THE LOCAL HEALTH OFFICERS

For the Year Ending December 31, 1918

Counties	Scarlet fever		Small-pox		Diphtheria and membranous croup		Typhoid fever		Whooping cough		Measles		Mumps		Chickenpox		Epidemic Influenza		Pneumonia		Tuberculosis		Bronchitis		Cerebrospinal meningitis		Diarrheal diseases of children		Cancer		Puerperal septicemia		Rocky Mountain spotted (tick) fever	
	C[a]	D[b]	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
Churchill	1	0															150	0	20	20	1	1							1	1	1	1		
Clark							4	0	4	0	12	0			2	0	235	1	42	42	11	11					1	1	4	2	2	2		
Douglas	1	0							3	1	4	0			2	0	62	1	17	17	2	2	1	1										
Elko	32	0	9	0			1	1	3	1	209	1	1	0	6	0	319	2	50	50	5	5					1	1	5	5			1	0
Esmeralda	1	0									1	0					30	0	14	14	3	3							1	1				
Eureka																	16	0	17	17	1	0					1	0			1	1		
Humboldt	2	0	1	0			3	1	14	1	6	0					215	6	62	62	4	5			1	0	2	2	4	4			1	1
Lander	6	0					4	0	2	0	4	0	2	0	3	0	75	0	13	13	1	1	6	0	1	0	5	0						
Lincoln	1	0															125	8	12	12							1	1						
Lyon							4	0	1	0	1	0	1	0	2	0	85	1	29	29	3	3					1	1	1	2				
Mineral	1	0															11	1	15	15	3	1					2	1	1	0				
Nye	6	0			3	3	12	1	14	0	5	0					91	29	25	25	13	12			2	1			2	2				
Ormsby	4	0									15	0					135	2	9	9	4	4	7	0			2	0	3	2				
Storey	3	0															291	0	22	22	4	2												
Washoe	15	0	2	0	9	0	15	4	4	1	36	0	2	0	11	0	560	7	120	120	15	15					1	0	14	14	2	1	2	2
White Pine	11	0	10	0			63	5	4	0	32	0			11	0	600	7	98	98	23	12	69	2			47	7	7	2	2	0		
Totals	87	0	22	0	12	3	106	12	49	4	325	1	6	0	37	0	3914	65	565	565	93	77	83	3	4	1	64	14	43	35	8	5	4	3

[a]C—Cases. [b]D—Deaths.

MARRIAGE LICENSES

Issued by the several County Clerks of the State from January 1 to December 31, 1917, inclusive, were as follows:

Churchill County	40
Clark County	83
Douglas County	19
Elko County	91
Esmeralda County	42
Eureka County	9
Humboldt County	83
Lander County	10
Lincoln County	29
Lyon County	43
Mineral County	15
Nye County	61
Ormsby County	52
Storey County	12
Washoe County	375
White Pine County	111
Total	1075

MARRIAGE LICENSES

Issued by the several County Clerks of the State from January 1 to December 31, 1918, inclusive, were as follows:

Churchill County	29
Clark County	59
Douglas County	10
Elko County	77
Esmeralda County	34
Eureka County	4
Humboldt County	64
Lander County	12
Lincoln County	23
Lyon County	31
Mineral County	7
Nye County	42
Ormsby County	37
Storey County	1
Washoe County	364
White Pine County	97
Total	891

LOCAL HEALTH OFFICERS OF THE STATE, 1917

Churchill County	C. H. Lehners, M.D., Fallon, Nevada
Clark County	Roy W. Martin, M.D., Las Vegas, Nevada
Douglas County	C. E. Thompson, M.D., Gardnerville, Nevada
Elko County	John E. Worden, M.D., Elko, Nevada
Esmeralda County	J. L. McCarthy, M.D., Goldfield, Nevada
Eureka County	G. M. Roberts, M.D., Eureka, Nevada
Humboldt County	P. J. Mangan, M.D., Winnemucca, Nevada
Lander County	G. L. Belanger, M.D., Austin, Nevada
Lincoln County	J. West Smith, M.D., Caliente, Nevada
Lyon County	Geo. E. Leavitt, M.D., Yerington, Nevada
Mineral County	F. C. Pache, M.D., Hawthorne, Nevada
Nye County	C. J. Richards, M.D., Tonopah, Nevada
Ormsby County	W. J. Circe, M.D., Carson City, Nevada
Storey County	Fred W. Hodgins, M.D., Virginia City, Nevada
Washoe County	J. A. Ascher, M.D., Sparks, Nevada
White Pine County	W. S. Holmquist, M.D., Ely, Nevada

LOCAL HEALTH OFFICERS OF THE STATE, 1918

Churchill County	C. H. Lehners, M.D., Fallon, Nevada
Clark County	Roy W. Martin, M.D., Las Vegas, Nevada
Douglas County	C. E. Thompson, M.D., Gardnerville, Nevada
Elko County	John E. Worden, M.D., Elko, Nevada
Esmeralda County	J. L. McCarthy, M.D., Goldfield, Nevada
Eureka County	W. H. Brennen, M.D., Eureka, Nevada
Humboldt County	E. D. Giroux, M.D., Winnemucca, Nevada
Lander County	G. L. Belanger, M.D., Austin, Nevada
Lincoln County	W. W. Stockham, M.D., Pioche, Nevada
Lyon County	G. E. Leavitt, M.D., Yerington, Nevada
Mineral County	J. W. Davis, M.D., Hawthorne, Nevada
Nye County	C. J. Richards, M.D., Tonopah, Nevada
Ormsby County	S. S. Jarrett, M.D., Carson City, Nevada
Storey County	Fred W. Hodgins, M.D., Virginia City, Nevada
Washoe County	J. A. Ascher, M.D., Sparks, Nevada
White Pine County	F. F. Owens, M.D., Ely, Nevada

LICENSED EMBALMERS OF THE STATE OF NEVADA

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T. F. DUNN, *Treasurer*	Goldfield, Nevada
GEO. E. KITZMEYER, *Secretary*	Carson City, Nevada

Members

Bates, O. G.	Ely, Nevada
Burke, J. J.	Reno, Nevada
Cavanaugh, Frank	Tonopah, Nevada
Clock, H. E.	Reno, Nevada
Circe, W. J., U. S. A.	Carson City, Nevada
Carlson, Perry	Winnemucca, Nevada
Chick, Frank O.	Reno, Nevada
Dunn, Thos. F.	Goldfield, Nevada
Dunn, Frank T.	Tonopah, Nevada
Deck, J. H.	Pioche, Nevada
Downey, W. J.	Carson City, Nevada
Evans, Wallace N.	Carson City, Nevada
Eddy, Edna T.	Lovelock, Nevada
Faust, C. B.	Las Vegas, Nevada
Gallagher, John	Lovelock, Nevada
Groesbeck, P. E.	Reno, Nevada
Gulling, John	Winnemucca, Nevada
Gill, Miss Hazel	Goldfield, Nevada
Glover, W. H.	Ely, Nevada
Hjul, Chas. C. H.	Eureka, Nevada
Keyser, Jos. L.	Elko, Nevada
Kenny, Jos. B.	Virginia City, Nevada
Kearns, H. A.	Austin, Nevada
Kaiser, W. F.	Fallon, Nevada
Keyser, J. H.	Elko, Nevada
Kitzmeyer, Geo. E.	Carson City, Nevada
Moody, J. F.	Quincy, Cal.
Miller, E. G.	Winnemucca, Nevada
Morrison, G. Edwin, U. S. A.	San Antonio, Texas
Noone, John H.	Luning, Nevada
Ocker, Chas. A.	Truckee, Cal.
O'Brien, J. B.	Reno, Nevada
Phipps, Alexander S.	Yerington, Nevada
Patten, T. M.	Winnemucca, Nevada
Rogers, Thos. D.	Manhattan, Nevada
Robbins, J. E.	Elko, Nevada
Ross, Silas E.	Reno, Nevada
Roberts, William I.	Las Vegas, Nevada
Ricketts, S. T.	Ely, Nevada
Smith, Mrs. Lottie	Oakland, Cal.
Seramur, Henry W.	Reno, Nevada

RECOMMENDATIONS

In conclusion, I would respectfully recommend the repeal of the present health law, and the substitution of one more applicable to existing conditions, more in harmony with the spirit of the times, and better calculated to protect the public health.

Should such a suggestion be deemed too radical, I would then advise that drastic amendments to the present law be enacted by the Legislature which will soon convene.

The inadequacy of the existing law to accomplish potential results is quite apparent to any one who reads and digests it. It is narrow and vague, and under its provisions, according to the rulings of the Attorney-General, the State Board of Health is denied necessary jurisdiction in matters that it alone should direct, and its administrative powers are hedged into the narrowest limits.

The present law contains no provision for the employment of a scientist or any field force whatever, and yet through such sources must come the weapons with which we must fight, and hope to conquer, future epidemics, pandemics, etc.

To obtain a knowledge of the origin of epidemics, the adoption of the best means and methods for preventing an outbreak of the same, and the sanest course to pursue when they do occur, are problems which cry aloud for the appointment of an epidemiologist. Such an officer is, to my mind, a necessary adjunct to the Board of Health, and when his special duties did not demand his whole time, he could be of equal value to the Department of Vital Statistics. He could visit the local health officers of the State, instruct them as to their duties, and see that they faithfully and promptly discharge them. The local health officers are poorly paid for the amount of labor required of them, and as a natural consequence many of them neglect the collection of vital statistics, a knowledge of which is absolutely necessary to the department.

For a period of over three months our people have been confronted with an epidemic so terrible in its results that every method possible to stay its further devastation should be inaugurated. From the first days of October until the present, epidemic influenza has swept over the State as a consuming flame, and has claimed by death over six persons out of every thousand of our population. We were not prepared either by laws or the appropriation of money to fight it. Had we been, I believe many lives might have been saved. It may be, however, that the lesson learned through costly sacrifice will be the means of preparing us for future epidemics, such even as physicians and epidemiologists already see in the wake of the one that has had us in its grip for over one hundred days.

At a committee meeting of the American Health Association held in Chicago from the 9th to the 12th of December, 1918, for the purpose of preparing a provisional "working formula" for administrative health officials throughout the country, the Association concluded its labors with the following:

SUGGESTIONS

In view of the probability of recurrence of the disease (influenza) from time to time during the coming year, health departments are advised to be ready in advance with plans for prevention, which plans embody the framework of necessary measures and as much detail as is possible. Laws plainly necessary should be enacted and rules passed now. Emergency funds should be held in reserve

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